

1. Using the general form of the definite integral,  $\int_a^b f(t)dt = \lim_{n \rightarrow \infty} \sum_{i=1}^n f(x_i^*)\Delta x$ , evaluate:

$$\int_2^4 (x-1)^2 dx$$

2. Evaluate  $\int_0^2 |x-1|^2 dx$  using integral properties from class. (HINT: draw a picture, and use geometry!)
3. Suppose that  $f(x)$  is an even function such that  $\int_0^2 f(x)dx = 5$  and  $\int_0^3 f(x)dx = 8$ . Find the value of  $\int_{-2}^3 f(x)dx$ .